

Vacuum Carburizing

● What is Carburizing?

Carburizing is a process in which carbon content is added to the surface of low-carbon steel or low-carbon alloy steel. Only the surface layer of the metal is quenched and hardened. As a result, the surface will be hard and abrasion-resistant, while the inner portion of the metal will retain its flexibility and toughness. Carburizing is commonly used in the production of parts for automobiles, as well as for machine parts of all types.

● The Carburizing Technology of the Future

The development of new carburizing gases and processing techniques has made it possible to produce high-performance, high-efficiency steel at a low cost, while also giving rise to new carburizing treatments that are clean and environmentally friendly.

● Benefits of Vacuum Carburizing

	Vacuum Carburizing	Gas Carburizing
Product Quality	(1) No grain boundary oxidation (2) Makes pore surface carburizing and uniform, irregularity-free carburizing easy (3) Allows carburizing of stainless steel (4) Makes high-density carburizing easy	(1) Produces grain boundary oxidation (2) Makes pore surface carburizing and uniform, irregularity-free carburizing difficult (3) Makes carburizing of stainless steel difficult (4) Makes high-density carburizing difficult
Environmental	(5) Reduces contribution to climate change •No CO2 emissions •Short processing time •Intermittent operation processing	(5) Problematic in terms of climate change-related factors •Emits CO2 •Long processing time •Continuous-operation processing